

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Jeff EDER

Serial No.: 09/688,983

Filed: October 17, 2000

For: AUTOMATED RISK TRANSFER SYSTEM

Group Art Unit: 3628

Examiner: H. Dass

**Brief on Appeal**

Honorable Commissioner of Patents and Trademarks

Washington, D.C. 20321

Sir:

This appeal brief is being submitted in response to the notice of non-compliant appeal brief for the above referenced application mailed on July 31, 2006.

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**Real party in interest**

Asset Reliance, Inc. (dba Asset Trust, Inc.)

**Related appeals**

An appeal for U.S. Patent Application 10/012,374 filed December 12, 2001 may be affected by or have a bearing on this appeal. An appeal for U.S. Patent Application 10/329,172 filed December 23, 2002 may be affected by or have a bearing on this appeal. An appeal for U.S. Patent Application 09/761,671 filed January 18, 2001 may be affected or have a bearing on this appeal.

**Status of Claims**

Claims 157 - 181 and claims 201 - 213 are the subject of this appeal. No other claims are pending. Claims 1 - 156 have previously been cancelled without prejudice and claims 182 – 200 were previously withdrawn.

**Status of Amendments**

An Amendment/Reply After Final Rejection was submitted on May 5, 2006 (see Advisory Action of July 13, 2006 ).

## Summary of Claimed Subject Matter

One embodiment of an automated risk transfer system for a commercial enterprise according to the present invention is best depicted in Figure 1 – 15 of the specification. Figure 1 gives an overview of the major processing steps which include preparing data for use in analysis using data integration, analyzing the integrated data, developing a risk reduction strategy by further analyzing the data and a series of output/input steps. The latter steps include the transfer of risk.

One embodiment of the automated risk transfer system for a commercial enterprise is exemplified in independent claim 157 where a computer readable media causes the processor in a computer to prepare data for use in analysis, analyze the data and use the results of the analysis to identify a combination of risk management activities that will optimize aspects of enterprise financial performance. More specifically, data from a plurality of enterprise management systems is prepared for use in analysis by integrating data from each system in accordance with a common metadata as described in FIG. 1 - 4, FIG. 5A - E and the System Setting/Databot section. The integrated data includes external data that identifies potential risk transfer transactions and internal data that is used to identify risk reduction activities. The current market value of equity securities for the commercial enterprise are obtained in a manner that is well known. This total is combined with the value of outstanding debt to calculate a market value as shown in Table 3. Risks are identified from the integrated data in two ways. First, contingent liability values are obtained from an advanced finance system (see second paragraph after Table 4). The specification also describes how to calculate contingent liability values using real option algorithms (see the paragraphs between Tables 29 and 33, the first two paragraphs after Table 33 and FIG. 6B). After enterprise value is analyzed using the procedure described in the analysis bots section of the specification and FIG. 6A – 6C, the remaining risks are quantified in accordance with the common metadata using the method described in the first 16 paragraphs of the risk reduction bots section of the specification and FIG. 7. It is straightforward to match a risk reduction activity or risk transfer to specific risks once the risks are quantified in accordance with the common metadata used for all data integration. Integrated data from the basic and advanced finance systems identifies the expected amount of cash and marketable securities available at any future time period with an available forecast. As described in the first paragraph after Table 15, forecasts are generally available by month for 3 years in to the future. This information is analyzed in order to calculate the amount of excess cash and marketable securities available for investment in risk management in a manner that is well known (Table 2). Alternatively, user input to the system settings (Table 15) can be combined with the same information in order to identify the amount of cash and marketable securities (i.e. capital) available for risk management. As described in the second paragraph after Table 51, the system then uses a linear programming model to complete optimization analyses for value maximization or risk minimization using the quantified value and risk information and available capital identified in prior stages of processing. The multi criteria optimization that is mentioned in the same paragraph and detailed in cross referenced U.S. Patent 5,615,109 is used to complete the combined value and risk optimization analysis.

A second embodiment of the automated risk transfer system for a commercial

enterprise is exemplified in independent claim 169 where a computer system prepares data for use in analysis, analyzes the data and uses the results of the analysis to identify a combination of risk management activities that will optimize aspects of enterprise financial performance. The support in the specification for this claim is identical to that detailed in the preceding paragraph for claim 157.

Independent claim 201 is directed to a third embodiment that details a method for preparing data for using in analysis and learning from the data as required to identify a tangible impact for one or more risks and elements of value on one or more aspects of enterprise financial performance. More specifically, data from a plurality of enterprise management systems is prepared for use in analysis by aggregating data from each system in accordance with a common metadata using metadata mapping as described in FIG. 1 - 4, FIG. 5A - E and the System Setting/Databot section. The aggregated data includes external data that identifies potential risk transfer transactions and internal data that is used to identify risk reduction activities. The current market value of equity securities for the commercial enterprise are obtained in a manner that is well known. This total is combined with the value of outstanding debt to calculate a market value as shown in Table 3. Value impacts are quantified by learning from the data using the procedure described in the analysis bots section of the specification and FIG. 6A - 6C. Risks are identified in two ways. First, contingent liability values are obtained from an advanced finance system (see second paragraph after Table 4). The specification also describes how to calculate contingent liability values using real option algorithms (see the paragraphs between Tables 29 and 33, the first two paragraphs after Table 33 and FIG. 6B). After, value impact has been quantified the remaining risk impacts are learned in an automated fashion using the method described in the first 16 paragraphs of the risk reduction bots section of the specification and FIG. 7.

Independent claim 207 is directed to a fourth embodiment that details a method for preparing data for using in analysis and analyzing the data as required to identify a tangible impact for one or more risks and elements of value on one or more aspects of enterprise financial performance. More specifically, data from a plurality of enterprise management systems is prepared for use in analysis by aggregating data from each system in accordance with a common metadata using metadata mapping as described in FIG. 1 - 4, FIG. 5A - E and the System Setting/Databot section. The aggregated data includes external data that identifies potential risk transfer transactions and internal data that is used to identify risk reduction activities. The current market value of equity securities for the commercial enterprise are obtained in a manner that is well known. This total is combined with the value of outstanding debt to calculate a market value as shown in Table 3. Values are calculated by completing a series of analyses that build on prior learning using the procedure described in the analysis bots section of the specification and FIG. 6A - 6C. Risks are then calculated in two ways. First, contingent liability values are obtained from an advanced finance system (see second paragraph after Table 4). The specification also describes how to calculate contingent liability values using real option algorithms (see the paragraphs between Tables 29 and 33, the first two paragraphs after Table 33 and FIG. 6B). After, values have been calculated the remaining risks are measured using the method described in the first 16 paragraphs of the risk reduction bots section of the specification and FIG. 7.



**Issues**

Issue 1 - Whether the invention of claims 157 - 168 will operate as disclosed and therefore has utility under 35 USC 101?

Issue 2 - Whether the invention of claims 169 - 181 will operate as disclosed and therefore has utility under 35 USC 101?

Issue 3 - Whether the invention of claims 201 - 206 will operate as disclosed and therefore has utility under 35 USC 101?

Issue 4 - Whether the invention of claims 207 - 213 will operate as disclosed and therefore has utility under 35 USC 101?

Issue 5 - Whether claims 157 - 168 are enabled under 35 USC 112, first paragraph?

Issue 6 - Whether claims 169 - 181 are enabled under 35 USC 112, first paragraph?

Issue 7 - Whether claims 201 - 206 are enabled under 35 USC 112, first paragraph?

Issue 8 - Whether claims 207 - 213 are enabled under 35 USC 112, first paragraph?

## **The Argument**

### **Grouping of Claims**

For each ground of rejection which Appellant contests herein which applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand and fall together.

**Issue 1** - Whether the invention of claims 157 - 168 will operate as disclosed and therefore has utility under 35 USC 101?

The claims are patentable for at least five reasons:

1. because only one of the rejected claims is affected by the alleged basis for a lack of patentable utility,
2. because the Examiner has failed to establish a prima facie case of non utility,
3. because the 9 March 2006 Office Action arguments regarding the alleged lack of utility fail to comply with the requirements of the Administrative Procedures Act,
4. because the method of calculating market value is concrete, and
5. because the claimed invention produces results that are concrete, tangible and useful.

As noted above, only one of the 12 rejected claims, claim 164, is affected by the alleged lack of utility. Consequently, the Appellant respectfully submits that the §101 rejections for a lack of utility should be withdrawn from claims 157 – 163 and claims 165 – 168.

As mentioned previously, the second reason claims 157 – 168 are patentable is that in the 9 March 2006 Office Action the Examiner has failed to establish a prima facie case of non utility for the rejected claims. MPEP 2164.07 states "the examiner has the initial burden of challenging an asserted utility. Only after the examiner has provided evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility does the burden shift to the applicant to provide rebuttal evidence sufficient to convince one of ordinary skill in the art of the invention's asserted utility. In re Brana, 51 F.3d 1560, 1566, 34 USPQ2d 1436, 1441 (Fed. Cir. 1995) (citing In re Bundy, 642 F.2d 430, 433, 209 USPQ 48, 51 (CCPA 1981)). The Appellant respectfully submits that the Examiner has not provided any evidence to support his assertions.

Instead of providing evidence to support the rejection, the Examiner simply made an allegation and asked four questions. The table below identifies some of the missing evidence associated with the allegation of non utility.

Office Action Question	Missing evidence includes:
1) How a brand, employee relation, alliance, etc. is quantified (when they allegedly can't be quantified)?	1) evidence that the quantification of brands, employee relations, alliances, etc. is something that those of average skill in the art would doubt, 2) evidence that the quantification of brands, employee relations, alliances, etc. using the claimed and/or system is something that those of average skill in the art would doubt, and 3) evidence that quantification of a brand, employee relation, alliance, etc. is required for the operation of the claimed invention
2) Who knew that GE brand will do better business than another company?	1) evidence that knowing that GE brand will do better business than another company is something that those of average skill in the art would doubt; 2) evidence that knowing that GE brand will do better business than another company using the specified method and/or system is something that those of average skill in the art would doubt; and 3) evidence that knowing that GE brand (or something comparable) will do better business than another company is required for the operation of the claimed invention
3) (Who knew) Google stocks will shoot to \$300?	1) evidence that knowing Google stocks (or something comparable) will shoot to \$300 is something that those of average skill in the art would doubt; 2) evidence that knowing Google stocks (or something comparable) will shoot to \$300 using the specified method and/or system is something that those of average skill in the art would doubt; and 3) evidence that knowing that Google stocks (or something comparable) will shoot to \$300 is required for the operation of the claimed invention
4) If so, is the quantifying these values (1, 2 and/or 3) are repeatable?	1) evidence that quantifying these values (1, 2 and/or 3) repeatably is something that those of average skill in the art would doubt, 2) evidence that quantifying these values (1, 2 and/or 3) repeatably using the specified method and/or system is something that those of average skill in the art would doubt, and 3) evidence that quantifying these values (1 – 3) repeatably is required for the operation of the claimed invention

As noted previously, the third reason claims 157 – 168 are patentable is that the assertions regarding the alleged lack of utility are not in compliance with the requirements of the Administrative Procedures Act and are therefore moot. In *Dickinson v. Zurko*, 119 S. Ct. 1816, 50 USPQ2d 1930 (1999), the Supreme Court held that the appropriate standard of review of PTO findings of fact are the standards set forth in the Administrative Procedure Act ("APA") at 5 U.S.C. 706 (1994). The APA provides two standards for review – an arbitrary and capricious standard and a substantial evidence standard. The Appellant respectfully submits that the 9 March 2006 Office Action fails under both standards. As detailed in the preceding paragraphs the 9 March 2006 Office Action has failed to provide even a scintilla of evidence to support the allegation of non utility it contains and that as a result it fails to meet the substantial evidence standard.

The Appellant respectfully submits that the 9 March 2006 Office Action also fails to meet the arbitrary and capricious standard. On 15 June 2004 the Examiner produced an Office Action for the instant application that contended that it would be obvious to use the methods of Donner (U.S. Patent 6,263,314) for intangibles valuation in combination with the methods of Ching (U.S. Patent 6,078,901) to quantify the risks associated with the intangible elements of value that he now contends can not be quantified. After a series of replies and Office Actions, the Examiner adopted his current position which is that risk for certain elements of value can not be quantified. The Appellant respectfully submits that this position is arbitrary and capricious for two reasons. First, the Examiner recently took the opposite position and has not been able to explain the change. Second, the Examiner previously produced a reference, Donner, that teaches that a value can be determined for an intangible element of value. It is well known by those of average skill in the art that a valuation for an element of value is a summary of the expected benefits that an element of value is expected to produce in the future. It is also well known by those of average skill in the art that risk measurements are summaries of potential reductions in benefits that may occur in the future. The Appellant respectfully submits that it is not rational or reasonable to acknowledge that future benefits can be identified and summarized for intangible elements of value while arguing that a reduction in those same benefits cannot be identified and summarized. The Appellant notes further evidence of the arbitrary and capricious nature of this argument can be found by reviewing the 8 June 2005, 2 December 2005 and 24 July 2006 Office Actions for the related application 10/329,172 where the Examiner appears to be arguing that calculating risk associated with the intangible elements of value he now claims cannot be valued was "old and well known in the art."

As noted previously, the fourth reason claims 157 – 168 are patentable is because the method for calculating market value is concrete. As shown in Table 3, the current market value of equity securities are obtained in a manner that is well known. This total is combined with the value of outstanding debt to calculate market value. Any control premium an acquiring company or individual may offer to pay for another company is not part of the calculations. This section of the 9 March 2006 Office Action for the above referenced application also contains requests that examples of the calculations be provided. The Appellant notes that it is well established that it is irrelevant whether or not

the specification contains illustrative examples (see *In re Wright*, 999 F 2d 1557, 27 USPQ 2d 1510 1513 Fed. Cir.) and that as a result no examples will be provided.

Finally, as noted previously, the fifth reason claims 157 – 168 are allowable is that the claimed invention produces results that are concrete, tangible and useful. Furthermore, the claimed invention produces results that meet a long felt need for improved capabilities to analyze and manage the elements of value that drive the financial performance of a commercial enterprise.

**Issue 2 - Whether the invention of claims 169 - 181 will operate as disclosed and therefore has utility under 35 USC 101?**

The claims are patentable in view of the shortcomings in the arguments contained in the 9 March 2006 Office Action that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, only one of the 13 rejected claims, claim 177, is affected by the alleged lack of utility. Consequently, the Appellant respectfully submits that the §101 rejections for a lack of utility should be withdrawn from claims 169 – 176 and claims 178 – 181. Claims 169 – 181 are also allowable for the second, third, fourth and fifth reasons advanced under Issue 1.

**Issue 3 - Whether the invention of claims 201 - 206 will operate as disclosed and therefore has utility under 35 USC 101?**

The claims are patentable in view of the shortcomings in the arguments contained in the 9 March 2006 Office Action that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims 201 - 206 are allowable for the second, third, fourth and fifth reasons advanced under Issue 1.

**Issue 4 - Whether the invention of claims 207 - 213 will operate as disclosed and therefore has utility under 35 USC 101?**

The claims are patentable in view of the shortcomings in the arguments contained in the 9 March 2006 Office Action that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims 207 - 213 are allowable for the second, third, fourth and fifth reasons advanced under Issue 1.

**Issue 5 - Whether claims 157 - 168 are enabled under 35 USC 112, first paragraph?**

The claims are patentable for three reasons:

1. because the Examiner has failed to establish a prima facie case that the specification does not meet the requirements of §112 first paragraph,
2. because the 9 March 2006 Office Action arguments regarding the alleged

lack of enablement fails to comply with the requirements of the Administrative Procedures Act, and

3. because the specification and drawings clearly explain how to make and use the claimed invention.

As mentioned previously, the first reason that claims 157 – 168 are patentable is that Examiner has failed to establish a *prima facie* case that the specification does meet the enablement requirements of §112 first paragraph. As detailed below, the Examiner has failed to establish a *prima facie* case that the specification does not meet the requirements of §112 first paragraph in a number of ways. MPEP 2163 states that:

“in rejecting a claim (under §112 first paragraph), the Examiner must set forth express findings of fact regarding the above analysis which support the lack of written description conclusion. These findings should:

(A) Identify the claim limitation at issue; and

(B) Establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. A general allegation of “unpredictability in the art” is not a sufficient reason to support a rejection for lack of adequate written description.”

The first way the 9 March 2006 Office Action fails to establish the *prima facie* case required to sustain a §112 first paragraph rejection is that the Examiner has not identified any reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed. Another requirement for establishing a *prima facie* case that the specification does not meet the requirements of §112 first paragraph is that the alleged lack of enablement should produce a need for undue experimentation. The second way the 9 March 2006 Office Action fails to establish a *prima facie* case that the specification does not meet the requirements of §112 first paragraph is that the Office Action gives no indication that any experimentation would be required to produce the claimed results. The Appellant notes that there are still a number of other ways in which the failure to produce a *prima facie* case that the specification does not meet the requirements of §112 first paragraph can be documented.

The second reason that that claims 157 – 168 are patentable is that the assertions regarding the alleged lack of enablement are not in compliance with the requirements of the Administrative Procedures Act and are therefore moot. In *Dickinson v. Zurko*, 119 S. Ct. 1816, 50 USPQ2d 1930 (1999), the Supreme Court held that the appropriate standard of review of PTO findings are the standards set forth in the Administrative Procedure Act (“APA”) at 5 U.S.C. 706 (1994). The APA provides two standards for review – an arbitrary and capricious standard and a substantial evidence standard. The Appellant respectfully submits that the 9 March 2006 Office Action fails to meet both standards. As detailed in the preceding paragraphs, the 9 March 2006 Office Action fails under the substantial evidence standard because it fails to provide even a scintilla of evidence to support the allegation that the specification does not meet the requirements of §112 first paragraph.

The Appellant also respectfully submits that a review of the prosecution history of the instant application and related application 10/329,172 makes it clear that reliance on the written description rejections contained in the 9 March 2006 Office Action would also fail to meet the second standard.

As noted previously, the third reason claims 157 – 168 are patentable is that the written specification and drawings describe the subject matter defined by each of the rejected claims and that they enable any person skilled in the relevant arts to make and use the subject matter defined in the rejected claims. These assertions are completely supported by the declaration under Rule 132 that has been provided as part of this response (please see Evidence Appendix). A declaration was not provided previously because the 9 March 2006 Office Action was the first Office Action on the merits of the pending claims.

The support in the written specification and drawings for independent claim 157 has already been described in the summary of claimed subject matter. The support for dependent claim 158, which the Examiner has questioned, includes the first 13 paragraphs of the risk reduction bots section of the specification of the specification and FIG. 7.

**Issue 6 - Whether claims 169 - 181 are enabled under 35 USC 112, first paragraph?**

The claims are patentable in view of the shortcomings in the arguments contained in the 9 March 2006 Office Action that were detailed in issue 5. In particular, claims 169 - 181 are allowable for the first and second reasons advanced under Issue 5.

The third reason claims 169 – 181 are patentable is that the written specification and drawings describe the subject matter defined by each of the rejected claims and that they enable any person skilled in the relevant arts to make and use the subject matter defined in the rejected claims. These assertions are completely supported by the declaration under Rule 132 that has been provided as part of this response (please see Evidence Appendix). A declaration was not provided previously because this is the 9 March 2006 Office Action was the first Office Action on the merits of the pending claims. The support in the written specification and drawings for independent claim 169 has already been described in the summary of claimed subject matter. The support for dependent claim 170, which the Examiner has questioned, includes the first 13 paragraphs of the risk reduction bots section of the specification and FIG. 7.

**Issue 7 - Whether claims 201 - 206 are enabled under 35 USC 112, first paragraph?**

The claims are patentable in view of the shortcomings in the arguments contained in the 9 March 2006 Office Action that were detailed in issue 5. In particular, claims 201 - 206 are allowable for the first and second reasons advanced under Issue 5.

The third reason claims 201 - 206 are patentable is that the written specification and drawings describe the subject matter defined by each of the rejected claims and that they enable any person skilled in the relevant arts to make and use the subject matter defined

in the rejected claims. These assertions are completely supported by the declaration under Rule 132 that has been provided as part of this response (please see Evidence Appendix). A declaration was not provided previously because this is the 9 March 2006 Office Action was the first Office Action on the merits of the pending claims.

The support in the written specification and drawings for independent claim 201 has already been described in the summary of claimed subject matter. The support for dependent claim 202, which the Examiner has questioned, has already been described as part of the description of independent claim 157. As noted previously, it is straightforward to match a risk reduction activity or risk transfer to a specific risk once the risks are quantified in accordance with the common metadata used for all data integration as described previously in the description of claim 201. Aggregated data from the basic and advanced finance systems identifies the expected amount of cash and marketable securities available at any time period. This information is analyzed to identify working capital requirements in a manner that is well known in order to calculate the amount of excess cash and marketable securities available for investment in risk management (Table 2). The user has the option of providing input to the system settings (Table 15) that can be combined with the same information in order to identify the amount of cash and marketable securities available for risk management. As shown in Table 3, the current market value of equity securities are obtained in a manner that is well known. This total is combined with the value of outstanding debt to calculate market value. As described in the second paragraph after Table 51, the system then uses a linear programming model to complete optimization analyses for value maximization or risk minimization using the quantified risk information and capital constraints developed in prior stages in processing. The multi criteria optimization that is mentioned in the same paragraph and detailed in cross referenced U.S. Patent 5,615,109 is used to complete the combined value and risk optimization analysis.

**Issue 8 - Whether claims 207 - 213 are enabled under 35 USC 112, first paragraph?**

The claims are patentable in view of the shortcomings in the arguments contained in the 9 March 2006 Office Action that were detailed in issue 5. In particular, claims 207 - 213 are allowable for the first and second reasons advanced under Issue 5.

The third reason claims 207 - 213 are patentable is that the written specification and drawings describe the subject matter defined by each of the rejected claims and that they enable any person skilled in the relevant arts to make and use the subject matter defined in the rejected claims. These assertions are completely supported by the declaration under Rule 132 that has been provided as part of this response (please see Evidence Appendix). A declaration was not provided previously because this is the 9 March 2006 Office Action was the first Office Action on the merits of the pending claims. The support in the written specification and drawings for independent claim 207 has already been described in the summary of claimed subject matter. The support for dependent claim 208, which the Examiner has questioned, has already been described as part of the description of independent claim 157. As noted previously, it is straightforward to match a



risk reduction activity or risk transfer to a specific risk once the risks are quantified in accordance with the common metadata used for all data integration as described previously in the description of claim 207. Aggregated data from the basic and advanced finance systems identifies the expected amount of cash and marketable securities available at any time period. This information is analyzed to identify working capital requirements in a manner that is well known in order to calculate the amount of excess cash and marketable securities available for investment in risk management (Table 2). The user has the option of providing input to the system settings (Table 15) that can be combined with the same information in order to identify the amount of cash and marketable securities available for risk management. As shown in Table 3, the current market value of equity securities are obtained in a manner that is well known. This total is combined with the value of outstanding debt to calculate market value. As described in the second paragraph after Table 51, the system then uses a linear programming model to complete optimization analyses for value maximization or risk minimization using the quantified risk information and capital constraints developed in prior stages in processing. The multi criteria optimization that is mentioned in the same paragraph and detailed in cross referenced U.S. Patent 5,615,109 is used to complete the combined value and risk optimization analysis.

### Conclusion

For the extensive reasons advanced above, Appellant respectfully but forcefully contends that each claim is patentable. Therefore, reversal of all rejections is courteously solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "B.J. Bennett". The signature is fluid and cursive, with a large, stylized "B" and "N".

B.J. Bennett, President

Asset Reliance, Inc.

Dated: August 25, 2006

## CLAIMS APPENDIX

157. A computer readable medium having sequences of instructions stored therein, which when executed cause the processor in a computer to perform a risk management optimization method, comprising:

- preparing data from a plurality of enterprise transaction systems for use in processing;
- measuring a plurality of risks using at least a portion of said data;
- identifying one or more risk management activities based upon said risks;
- calculating an amount of capital available for said risk management activities using at least a portion of said data; and
- determining a combination of risk management activities that optimizes aspects of enterprise financial performance selected from the group consisting of market value, risk and combinations thereof within a constraint of the available capital.

158. The computer readable medium of claim 157, wherein measuring a plurality of risks further comprises quantifying risks under scenarios selected from the group consisting of normal, extreme and combinations thereof.

159. The computer readable medium of claim 157 wherein a market value further comprises one or more categories of value selected from the group consisting of an current operation, real option, market sentiment and combinations thereof.

160. The computer readable medium of claim 157 wherein a risk management activity is selected from the group consisting of establishing one or more risk management control systems, completing one or more risk transfer transactions and combinations thereof.

161. The computer readable medium of claim 160, wherein establishing each of one or more risk management control systems further comprises identifying a risk reduction activity and optionally establishing a method for implementing said activity in an automated fashion.

162. The computer readable medium of claim 160, wherein completing one or more risk transfer transactions further comprises completing activities selected from the group

consisting of insurance purchases, derivative transactions, and combinations thereof.

163. The computer readable medium of claim 157, wherein identifying and measuring a plurality of risks further comprises:

- developing a computational model of organization market value by category of value, element of value and external factor by completing a series of multivariate analyses in an automated fashion using at least a portion of the data, and
- quantifying a plurality of risks by a category of value using said model, where a category of value is selected from the group consisting of current operation, real option, market sentiment and combinations thereof.

164. The computer readable medium of claim 163 wherein the method further comprises quantifying risk by element of value and external factor where the elements of value are selected from the group consisting of alliances, brands, customers, customer relationships, employees, employee relationships, infrastructure, intellectual property, information technology, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

165. The computer readable medium of claim 157 that further supports an optimization of aspects of financial performance selected from the group consisting of current operation value, real option value, market sentiment value and combinations thereof.

166. The computer readable medium of claim 157 where determining an optimal combination of risk management activities further comprises using a method selected from the group consisting of quasi Monte Carlo, genetic algorithm, multi-criteria optimization and linear programming.

167. The computer readable medium of claim 157 where the method further comprises:  
using one or more shadow prices from a linear programming optimization calculation to identify an optimal budget for risk management activities.

168. The computer readable medium of claim 157 where preparing data from a plurality of

enterprise transaction systems for use in processing further comprises:

using metadata mapping to convert, integrate and store a plurality of enterprise related data from a plurality of enterprise related systems in accordance with a metadata standard

where a metadata standard is selected from the group consisting of xml and metadata coalition specification and a metadata mapping table is used to support the integration, conversion and storage of data.

169. A risk management optimization system, comprising:

networked computers each with a processor having circuitry to execute instructions; a storage device available to each processor with sequences of instructions stored therein, which when executed cause the processors to:

prepare data from a plurality of enterprise transaction systems for use in processing;

measure a plurality of risks using at least a portion of said data;

identify one or more risk management activities based upon said risks;

calculate an amount of capital available for said risk management activities using at least a portion of said data; and

determine a combination of risk management activities that optimizes aspects of enterprise financial performance selected from the group consisting of market value, risk and combinations thereof within one or more constraints of the available capital.

170. The system of claim 169, wherein measuring a plurality of risks further comprises quantifying risks under scenarios selected from the group consisting of normal, extreme and combinations thereof.

171. The system of claim 169 wherein a market value further comprises one or more categories of value selected from the group consisting of current operation, real option, market sentiment and combinations thereof.

172. The system of claim 169 wherein a risk management activity is selected from the group consisting of establishing one or more risk management control systems, completing one or more risk transfer transactions and combinations thereof.

173. The system of claim 172, wherein establishing each of one or more risk management control systems further comprises identifying a risk reduction activity and optionally establishing a method for implementing said activity in an automated fashion.

174. The system of claim 172, wherein completing one or more risk transfer transactions further comprises completing activities selected from the group consisting of insurance purchases, derivative transactions, and combinations thereof.

175. The system of claim 169, wherein identifying and measuring a plurality of risks further comprises:

developing a computational model of organization market value by category of value, element of value and external factor by completing a series of multivariate analyses in an automated fashion using composite applications and at least a portion of the data, and

quantifying a plurality of risks by a category of value using said model, where a category of value is selected from the group consisting of current operation, real option, market sentiment and combinations thereof.

176. The system of claim 175 wherein a series of multivariate analyses are selected from the group consisting of identifying one or more previously unknown item performance indicators, discovering one or more previously unknown value drivers, identifying one or more previously unknown relationships between one or more value drivers, identifying one or more previously unknown relationships between one or more elements of value, quantifying one or more inter-relationships between value drivers, quantifying one or more impacts between elements of value, developing one or more composite variables, developing one or more vectors, developing one or more causal element impact summaries, identifying a best fit combination of predictive model algorithm and element impact summaries for modeling enterprise market value and each of the components of value, building predictive models using transaction data, determining a net element of value impact for each category of value, determining a relative strength of the elements of value between two or more enterprises, developing one or more real option discount rates,

calculating one or more real option values, calculating an enterprise market sentiment value by element, developing a covariance matrix, developing a series of scenarios, simulating a financial performance under a given scenario and combinations thereof.

177. The system of claim 169 wherein the method further comprises quantifying risk by element of value and external factor where the elements of value are selected from the group consisting of alliances, brands, customers, customer relationships, employees, employee relationships, infrastructure, intellectual property, information technology, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof.

178. The system of claim 169 that further supports an optimization of aspects of financial performance selected from the group consisting of current operation value, real option value, market sentiment value and combinations thereof.

179. The system of claim 169 where determining an optimal combination of risk management activities further comprises using a method selected from the group consisting of quasi Monte Carlo, genetic algorithm, multi-criteria optimization and linear programming.

180. The system of claim 169 where the method further comprises:  
using one or more shadow prices from a linear programming optimization calculation to identify an optimal budget for risk management activities.

181. The system of claim 169 where preparing data from a plurality of enterprise transaction systems for use in processing further comprises:  
converting and storing a plurality of enterprise related data from a plurality of enterprise related systems in accordance with an xml or metadata coalition metadata standard.

182 – 200. (withdrawn).

201. An advanced management method, comprising:  
aggregating and preparing data from a plurality of enterprise related systems for use in

processing, and

learning from at least a portion of the data as required to quantify a tangible impact for a plurality of risks and one or more elements of value on one or more subsets of value selected from the group consisting of a category of value, a component of value and combinations thereof

where one or more elements of value are selected from the group consisting of alliances, brands, customers, customer relationships, employees, employee relationships, infrastructure, intellectual property, information technology, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof, and

where a plurality of risks are selected from the group consisting of event risks, contingent liabilities, volatility and combinations thereof.

202. The method of claim 201 wherein the method further comprises:

identifying one or more risk management activities based upon one or more quantified risks;

calculating an amount of capital available for said risk management activities using at least a portion of said data; and

determining a combination of risk management activities that optimizes aspects of enterprise financial performance selected from the group consisting of market value, risk and combinations thereof within a constraint of the available capital.

203. The method of claim 201 wherein aggregating and preparing data from a plurality of enterprise related systems for use in processing, further comprises using metadata mapping to integrate and store data from said systems in accordance with a common schema.

204. The method of claim 201 wherein a category of value is selected from the group consisting of current operation, real option, market sentiment and combinations thereof and a component of value is selected from the group consisting of revenue, expense, capital and combinations thereof.



205. The method of claim 201, wherein quantifying a plurality of risks further comprises quantifying risks under scenarios selected from the group consisting of normal, extreme and combinations thereof.

206. The method of claim 208 wherein a risk management activity is selected from the group consisting of establishing one or more risk management control systems, completing one or more risk transfer transactions and combinations thereof.

207. A management analysis method, comprising:

aggregating and preparing data from a plurality of enterprise related systems for use in processing, and

analyzing at least a portion of the data as required to quantify an enterprise value and risk by one or more subsets of value selected from the group consisting of a category of value, a component of value, an element of value and combinations thereof

where an element of value is selected from the group consisting of alliances, brands, customers, customer relationships, employees, employee relationships, infrastructure, intellectual property, information technology, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof;

where an enterprise value further comprises a market value, and

where an enterprise risk further comprises a sum of a plurality of risks selected from the group consisting of event risks, contingent liabilities, volatility and combinations thereof.

208. The method of claim 207 wherein aggregating and preparing data from a plurality of enterprise related systems for use in processing, further comprises using metadata mapping to integrate, convert and store data from said systems in accordance with a common schema.

209. The method of claim 207 wherein the method further comprises:

identifying one or more risk management activities based upon one or more quantified

risks;

calculating an amount of capital available for said risk management activities using at least a portion of said data; and

determining a combination of risk management activities that optimizes aspects of enterprise financial performance selected from the group consisting of market value, risk and combinations thereof within a constraint of the available capital.

210. The method of claim 207, wherein quantifying an impact for plurality of risks further comprises quantifying an impact for a plurality of risks under scenarios selected from the group consisting of normal, extreme and combinations thereof.

211. The method of claim 207 wherein a category of value is selected from the group consisting of current operation, real option, market sentiment and combinations thereof and a component of value is selected from the group consisting of revenue, expense, capital and combinations thereof.

212. The method of claim 214 wherein a risk management activity is selected from the group consisting of establishing one or more risk management control systems, completing one or more risk transfer transactions and combinations thereof.

213. The method of claim 212, wherein completing one or more risk transfer transactions further comprises completing activities selected from the group consisting of insurance purchases, derivate transactions and combinations thereof.

## Evidence Appendix